

ABSTRACT

A device for non-contact detection of an external electric or magnetic field is presented. The device comprises an active unit capable of emitting an interrogation signal, and a passive unit to be positioned at a spot where the external field is to be detected. The passive unit comprises a substrate, which is capable of transporting therethrough a wave sensitive to the external field, and is formed with a delay line thereon. The delay line forms a wave channel for the wave's propagation, and is capable of converting the interrogation signal into an output response signal. The wave channel is exposed contactlessly to action of the external field, which effects a change in a velocity of the wave propagation through the wave channel, the response output signal being thereby informative of the external field. The active unit is capable of receiving and processing the output response signal for determining and indicating the external field at the spot.